

Notice of Allowability

Application No.

09/704,761

Examiner

Abbas I Abdulsalam

Applicant(s)

KANG, SANG-SEOG

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/24/04.
2. ☒ The allowed claim(s) is/are 1-13 and 16-26 (renumbered as claims 1-9, 11-16, 18-23, 10, 17 and 24).
3. ☒ The drawings filed on 03 November 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


XIAO WU
PRIMARY EXAMINER

DETAILED ACTION

Allowable Subject Matter

1. The following is an examiner's statement of reasons for allowance:

Caldwell et al. (USPN 5153572) teach a touch sensitive control circuit (10) including comparators (U2, U3), and a detection means (102) for detecting a voltage signal output (72). See col. 3, lines 8-25 col. 4, lines 17-22, 50 and Fig 1a. Caldwell teaches that the detection means also has time delay means expressed in terms of capacitor (122) and resistor (123). See col. 5, lines 25-26. Caldwell further teaches the detection means in terms of a switching of either outputs (83) or (85). See col. 4, lines 66-67.

Regarding claim 1, none of the cited prior art teaches or suggests a glass touch sensing circuit, comprising: a touch sensor which provides a signal in response to a user's touch; a switch having a switching period of time differently determined depending on a level of the touch sensor signal; a compensator which produces an independent temperature reference signal corresponding to a variation in temperature of the glass touch sensing circuit, and compares an output signal from said switch proportional to the touch sensor signal with that of the independent temperature reference signal, said independent temperature reference signal and said output signal from said switch have substantially a same slope such that the compensator outputs a square wave-shaped signal in accordance with a compared result; and a touch detector responsive to an output signal from said compensator for detecting whether the user touched said touch sensor.

Regarding claim 11 (renumbered as claim 10), none of the cited prior art teaches a touch sensing system, comprising an input terminal for receiving a signal output from a touch sensor;

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and a controller which processes the signal from the touch sensor based on an independent temperature reference signal corresponding to a variation in temperature to generate a touch detection signal, wherein the controller includes: a switch which outputs a switch signal based on the signal from the touch sensor; a signal generator which generates a reference signal; and a comparator which compares the switch signal to the reference signal, wherein the signal generator includes a level-controller which controls a level of the reference signal based on temperature variation, and wherein the level-controller varies the level of the reference signal to coincide with changes in the switch signal that result from variation in temperature such that the comparator outputs a square wave-shaped signal.

Regarding claim 18, none of the cited prior art teaches or suggests a touch sensing system, comprising: a switch which outputs a switch signal based on a touch sensor signal; and a controller which compensates for variations in a turning-on period of the switch to generate a touch detection signal by comparing an independent temperature reference signal corresponding to a variation in temperature with the switch signal output from the switch, wherein the controller includes: a comparator for comparing the switch signal to a reference signal having substantially a same slope as the switch signal to generate a square waved-shaped compensated switch signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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2. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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November 26, 2004


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